

### **Remarks**

The claims are directed to a process for coating injet-recording substrates and to coating slips suitable therefor. In the past, coating slips have been prepared using polyvinylalcohols as a binder. Slips contain a relatively large amount of pigments/fillers, generally finely particulate silica, kaolin, etc. The use of large amounts of polyvinyl alcohol ("PVAI") as a binder is problematic, as there is a sharp viscosity increase with increasing PVAI content, which may also result in thixotropic or dilatent behavior. Yet, without a large amount of binder, the abrasion resistance of the coated paper is compromised.

Applicants have solved these problems through the use of coating slips which contain, as binders, a silane-containing PVAI in conjunction with a water -redispersible polymer powder. These compositions provide high binding capacity, good abrasion resistance, and yet form stable slips.

Claims 11 - 12 and 14 - 26 have been rejected under 35 U.S.C. § 102(b) as anticipated by Quintens et al. European published application EP 1 127 706 A1 ("*Quintens*"). Applicants respectfully traverse this rejection.

*Quintens* discloses a coating slip containing a silanol-modified PVAI as a principle binder, along with a secondary binder which is an aqueous latex of numerous film forming polymers as described in ¶[0031], [0032], [0033]. In ¶[0027], numerous cobinders (functioning as does the PVAI) can be added in minor amount. Among the polymers specified are polyvinylacetate polymers.

However, the claims require a redispersible polymer powder. Redispersible polymer powders are unique particulate polymers which are prepared by aqueous emulsion polymerization of ethylenically unsaturated monomers in the presence of a protective colloid, followed by drying, principally spray drying. The resultant powders are unique, because upon adding to water with only minimal agitation, they redisperse to form an aqueous dispersion with

the same particle size and particle size distribution as the particles of the dispersion prior to drying. Ordinary polymer powders do not have these characteristics. For example, both polyvinyl acetate (PVA) and poly(vinylacetate/ethylene) (EVA), etc. may be produced as polymer granules suitable for use in molding articles such as shoe soles, as lattices suitable for applications where a film-forming polymer is desired (such as coatings and floor polishes), or as redispersible polymer powders. All these products, despite having the same composition based on monomer content, are very different, as indicated by the subject application.

Reference may be had, to Example 1 and Comparative Example 7, and Example 8 and Comparative Example 14. In each of the subject invention and comparative examples, the same silane-modified PVAI was employed. In Examples 1 and 8, a redispersible functionalized polyvinylacetate polymer was employed. In Comparative Examples 7 and 14, a functionalized polyvinyl acetate latex was employed in lieu of the functionalized polyvinylacetate redispersible polymer powder. The inventive compositions produced coats with high abrasion resistance and brightness. However, the comparative examples were not stable enough to even be able to prepare a coating.

*Quintens* only discloses formulations with low polymer content, and does not disclose, nor does he teach or suggest employing a redispersible polymer powder of any kind. The word "redispersible" does not even appear in *Quintens*.

The test for anticipation is one of "strict identity". *Trintec Industries, Inc. v. TOP U.S.A. Corp.*, 295 F.3d 1292 (Fed. Cir. 2002), and *Quintens* certainly does not meet that test. Moreover, Applicants' results indicate that they have obtained an unexpected result due to employing a redispersible polymer in lieu of an ordinary polymer, a result which is completely unpredicted and non-obvious over *Quintens* as well.

It should be noted that claims 16 and 17 refer to preparation of the components of the coating slip, as is apparent to one skilled in the art, and not to application of the slip to the substrate. Spray drying, which is accomplished by co-current or countercurrent drying of a liquid

dispersion by hot gas in a drying tower to form spray dried powders cannot be used in paper coating. Spray drying is a recognized and well understood term of art.

Withdrawal of the rejection of the claims over *Quintens* is respectfully solicited.

Claim 13 has been rejected under 35 U.S.C. § 103(a) over *Quintens* in view of Kuraray R-Polymer Technical Data Sheet. The Kuraray TDS does not disclose any more than *Quintens* itself; there are no amounts of any ingredients listed. Furthermore, as neither *Quintens* nor *Kuraray* nor their combination disclose, teach, or suggest use of a redispersible polymer powder, claim 13 is non-obvious for this reason. Withdrawal of the rejection over *Quintens* in view of Kuraray is respectfully solicited.

*Quintens* was cited during the prosecution of the corresponding European application, and the claims have been granted by the EPO. Grants have also been obtained in China (CN) and Russia (RU). While Applicants' attorney recognizes that grants in foreign jurisdictions are certainly not controlling, they do have persuasive effect, particularly when, as is the case within the EPO, the concepts of novelty (anticipation) and obviousness (lack of invention) are very similar to these same concepts in the U.S., and where the same reference has been not only cited, but carefully considered.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

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Respectfully submitted,

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